

Title (en)

Use of coated catalysts for the hydrogenation of maleic anhydride to tetrahydrofuran and gammabutyrolactone.

Title (de)

Verwendung von beschichteten Katalysatoren zur Hydrierung von Maleinsäureanhydrid zu Tetrahydrofuran und Gammabutyrolacton.

Title (fr)

Utilisation de catalyseurs revêtus dans l'hydrogénation de l'anhydride maléique en tétrahydrofuranne et gamma-butyrolactone.

Publication

EP 0404408 A1 19901227 (EN)

Application

EP 90306303 A 19900608

Priority

US 37049289 A 19890623

Abstract (en)

Tetrahydrofuran and gamma-butyrolactone are prepared from at least one of maleic anhydride or succinic anhydride by catalytically hydrogenating vaporous maleic anhydride or vaporous succinic anhydride in the presence of hydrogen in contact with a catalyst comprising an essentially inert, at least partially porous support having an outer surface, and a catalytically active oxide material coating onto the outer surface of the support which strongly adheres to the support, wherein the catalytically active oxide material comprises the mixed oxides of copper, zinc and aluminum.

IPC 1-7

B01J 23/80; **B01J 23/86**; **C07D 307/08**; **C07D 307/33**

IPC 8 full level

B01J 23/80 (2006.01); **B01J 23/86** (2006.01); **B01J 23/89** (2006.01); **B01J 37/02** (2006.01); **C07B 61/00** (2006.01); **C07D 307/08** (2006.01); **C07D 307/33** (2006.01); **C07D 315/00** (2006.01)

CPC (source: EP KR US)

B01J 23/80 (2013.01 - EP US); **B01J 23/825** (2013.01 - KR); **B01J 23/868** (2013.01 - EP US); **B01J 37/0221** (2013.01 - EP US); **C07D 307/08** (2013.01 - EP US); **C07D 315/00** (2013.01 - EP US)

Citation (search report)

- [Y] EP 0322140 A1 19890628 - STANDARD OIL CO OHIO [US]
- [Y] EP 0296734 A1 19881228 - ICI PLC [GB]
- [A] GB 2135295 A 19840830 - MITSUBISHI GAS CHEMICAL CO
- [AD] US 4077912 A 19780307 - DOLHYJ SERGE R, et al

Cited by

KR100773174B1; US7271299B2; DE4326692A1; US5536849A; US5637735A; EP0528305A3; US5302569A; US6147125A; EP1174408A1; EP0845294A3; US6958404B2; US7217679B2; US6562306B1; WO03072248A1; WO0247815A1; US7154011B2; US7169958B2; US6831182B2; US6800665B1; US7033972B2

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)

EP 0404408 A1 19901227; **EP 0404408 B1 19931013**; AT E95727 T1 19931015; CA 2018370 A1 19901223; CN 1035378 C 19970709; CN 1048172 A 19910102; CN 1071421 A 19930428; DE 69003883 D1 19931118; DE 69003883 T2 19940210; DK 0404408 T3 19940214; ES 2045810 T3 19940116; JP H0326340 A 19910204; KR 910000225 A 19910129; US 5055599 A 19911008

DOCDB simple family (application)

EP 90306303 A 19900608; AT 90306303 T 19900608; CA 2018370 A 19900606; CN 90103102 A 19900621; CN 92112986 A 19921105; DE 69003883 T 19900608; DK 90306303 T 19900608; ES 90306303 T 19900608; JP 16253390 A 19900620; KR 900009077 A 19900620; US 37049289 A 19890623